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EXAMINER	
SMITH, CHENEA	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/696,747	STROMME, OYVIND	
	Examiner	Art Unit	
	CHENEA P. SMITH	2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,11-18 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,11-18 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to communications filed 2/8/2011. Claims 1-3, 11-18 and 20 are amended. Claims 4-6 and 19 are cancelled. Claim 22 is new. Claims 1-3, 7-18 and 20-22 are pending in this action.

Response to Arguments

2. Applicant's arguments filed 2/8/2011 have been fully considered but they are not persuasive.

3. In response to Applicant's arguments on page 10, lines 3-27, regarding claim 1 that, "Bulman's personalized video tape does not teach "receiving a first set of computer generated views of the preregistered picture in various orientations at a video receiver before the plurality of video images is received" because a photograph resized into several sizes is not a first set of computer generated views of the preregistered picture in various orientations. Different sizes are not different orientations. The Examiner acknowledges this distinction and refers to a second embodiment (Example 6) of Bulman. See Office Action, p. 3.

In that embodiment, Bulman describes recording a human subject head with a video camera. The subject stands on a turntable which is rotated. The images recorded by the video camera differ in orientation and positioning. See col. 13, lines 28-42. However, these images are

not a first set of computer generated views of the preregistered picture in various orientations at a video receiver. A video of a human subject cannot be reasonably considered a set of computer generated views.

Bulman also states in a third embodiment (Example 7) that a library of images may include "images varying in perspective, size, action (e.g., mouth open, mouth closed, eyes open, eyes closed, smiling, frowning, etc.), lighting, or other characteristics." See col. 12, lines 18-25. However, the library of images cannot be considered a first set of computer generated views of the preregistered picture in various orientations because they are not computer generated. Bulman specifically states that the "image library may also be supplemented with synthesized images," which distinguishes the other images mentioned previously as not synthesized, and further states that even the synthesized are "interpolated or extrapolated from actual images." In either case, this embodiment of Bulman cannot be reasonably construed to teach "receiving a first set of computer generated views of the preregistered picture in various orientations at a video receiver before the plurality of video images is received", and similar subsequent arguments regarding claim 12, the Examiner respectfully disagrees. Bulman discloses that the image of the head and/or head of his system may be obtained from a "real" head or body, respectively, either photographically or by electronic image scanning, or from an artistic or computer generated rendering thereof (see Bulman, col 1, lines 27-30). Bulman further discloses video frames of the head being obtained and stored, and thereafter digitized to provide digital representations of each frame (see Bulman, col 8, lines 9-20), or, alternatively, using a scanner to electronically scan a photograph and produce digital representations defining the image, wherein perspective views of the subject may be artificially generated from one or more views of the

subject (see Bulman, col 8, lines 25-28). The representations of the subject resulting from the methods as disclosed above are all generated using a computer. Therefore, the limitation as claimed is met.

In response to Applicant's arguments on page 10, line 28 – page 11, line 10 that, "In addition, nothing in Bulman suggests that the views are received at a video receiver before the plurality of video images is received. In the embodiment of the personalized videotape (Example 5), the PC workstation retrieves the views and combines it with a video story. See col. 11, lines 30-36. However, Bulman does not state that the views are scaled before the video is received. Finally, the combined image is stored with a VCR, which suggests that is not superimposed on video images as the video images are received.

Moreover, in the second embodiment (Example 6), Bulman expressly requires that this embodiment allows "production to occur in real time and be synthesized, sequenced and directly recorded on a video tape" and "the facial image to be scaled, rotated, and placed in real time on the background video image." See col. 12, lines 14-38. If the facial images are scaled and rotated in real time, Bulman does not describe "receiving a first set of computer generated views of the preregistered picture in various orientations at a video receiver before the plurality of video images is received", and similar subsequent arguments regarding claim 12, the Examiner respectfully disagrees. Bulman discloses that his digital representations of the image are stored in memory 102 and may include representations of varying perspective, size, action, etc. (see Bulman, col 12, lines 19-24), and that the proper image representation, i.e., foreground image, is retrieved from the memory and scaled, rotated and placed on the background image (see Bulman, col 12, lines 36-38) in real time (see Bulman, col 12, lines 14-18 and line 37) based on SMPTE

time codes and other associated information regarding the optimum location and orientation of the image (see Bulman, 29-40). The scaling and rotating done may be in addition to any processing done before the digital representation were stored, since a desired positioning and orientation for a cohesive match with the background image may be obtained by selecting the closest image actually obtained, and then further transformed by linear scaling, interpolation, or other processing (see Bulman, col 13, lines 29-38). Since the digital representations are already stored, they may reasonably be received before the background images.

In response to Applicant's arguments on page 12, line 16 - page 13, line 2 regarding claim 20 that, "The Office Action acknowledges that Lemmons and Bulman do not "disclose transmitting the enhancement information in advance of transmission of the stream of video images." See Office Action, p. 18. However, the Office Action asserts that Lemmons '981 teaches this feature. Assignee respectfully disagrees.

Claim 20 does not recite "enhancement information" as characterized by the Office Action. Claim 20 recites "a first set of computer generated views of preregistered picture in various orientations." Lemmons '981 describes a system where a television program is transmitted on a first channel and enhancements to the program are transmitted on a second channel. See abstract. The enhancements may include management messages or program guides. See ¶18. The receiver may store combined data in a hard drive. See ¶ 29.

Management messages or program guides cannot be reasonably considered a set of computer generated views associated with an orientation index. Therefore, Lemmons '981 does not suggest, "in advance of transmission of the stream of video images, transmitting each computer generated view of the first set of computer generated views in association with an

orientation index that identifies a physical orientation of the computer generated view of the preregistered picture," as recited by claim 20.

Therefore, none of Lemmons, Bulman, Lemmons '981, or combinations thereof teach or suggest all of the features of claim 20. Accordingly, Assignee respectfully requests that the rejections of claim 20 and dependent claim 21 be withdrawn", and similar arguments regarding the newly added limitations to claims 1 and 12, the Examiner respectfully disagrees. The system of Lemmons in view of Bulman teaches providing enhancements to video content (see Lemmons, [0003], and Bulman, col 6, lines 6-10) in a more normalized (see Bulman, col 1, lines 60-63), flexible and inexpensive manner (see Lemmons, [0006] and [0007]) in that the enhancement information does not have to be embedded within the video stream (see Lemmons, [0010]). Lemmons '981 teaches enhancement data being transmitted and received before the video stream to be enhanced is transmitted and received (see Lemmons '981, [0029]-[0030], lines 1-4). Lemmons '981 teaches enhancement data including stock updates and news stories, as well as other information, as examples only. It is well known in the art that enhancement data may be of any type or form, as shown in Lemmons and Bulman. Therefore, it would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman to include the limitations as taught by Lemmons '981 for the advantage of providing an improved system for delivering enhancements such that the enhanced video is presented in a more normalized, flexible and inexpensive manner, while conserving bandwidth.

In response to Applicant's arguments on page 13, lines 7-19 regarding claim 21 that, "Claim 21 recites transmitting a polygon representation of an obstruction with the video image

and the selected orientation index. The Office Action asserts Wang teaches the subject matter of Claim 21. Specifically, the Office Action reasons that "any object in the camera's field of view, including an obstruction, will be represented in the transmitted signal." Assignee respectfully disagrees with this reasoning. Wang does not suggest a polygon representation of an obstruction. The mere possibility that a filmed object could be considered an obstruction does not rise to the level of transmitting a polygon representation of an obstruction. For at least these reasons, Assignee submits that none of the cited prior art teaches or suggests transmitting a polygon representation of an obstruction with a video image and an orientation index. Accordingly, Applicants submit that, in addition to the reasons above, claim 21 is allowable over the cited prior art", the Examiner respectfully disagrees. Wang teaches creating a view of a synthetic camera based on the field of view of an actual camera (see Wang, col 7, lines 37-39). Any object in a camera's field of view, then, including an obstruction, will be represented in the transmitted signal (see Wang, col 7, lines 37-54). Furthermore, objects presented in the synthetic view may be three dimensional graphic representations of an object (see Wang, col 8, lines 43-52), which, then, must include polygons since virtual and/or 3D graphics may be built based on various polygons. Therefore, the limitation as claimed is met.

In response to Applicant's arguments on page 13, lines 25-27 regarding claim 22 that, "None of the cited prior art teaches or suggest video images received with a corresponding orientation index and superimposing a computer-generated view having the same orientation index on each of the video images", the Examiner respectfully disagrees. Bulman teaches that his background images are coded with SMPTE time codes and other information regarding the

optimum location and orientation of the image (see Bulman, col 12, lines 29-33 and col 14, lines 6-9). Therefore, the limitation as claimed is met.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 22 is rejected under 35 U.S.C. 102(e) as being anticipated by Bulman (of record).

Regarding claim 22, Bulman discloses a method of superimposing (see Bulman, col 2, lines 16-18) a preregistered picture (head/foreground image, see Bulman, col 1, lines 27-30, col 2, lines 16-18 and col 12, lines 21-25) on a predetermined area of the image of a moving object (see Bulman, col 5, lines 26-34) in a plurality of video images (see Bulman, col 5, lines 8-18), the method comprising:

receiving and storing in a memory (see Bulman, col 12, lines 21-28) a set of computer-generated views of a preregistered picture (see Bulman, col 1, lines 27-30 and col 8, lines 9-28) each associated with a unique orientation index identifying the physical orientation of the

corresponding computer-generated view (see Bulman, col 11, lines 22-29, col 12, lines 21-28 and col 13, lines 29-33); and

superimposing on each of said video images (see Bulman, col 2, lines 16-18 and col 12, lines 36-38), each being received with a corresponding orientation index (Bulman teaches that his background images are coded with SMPTE time codes and other information regarding the optimum location and orientation of the image (see Bulman, col 12, lines 29-33 and col 14, lines 6-9), the computer-generated view having the same orientation index (see Bulman, col 13, lines 29-37), at a location and scaling indicated by size and location information transmitted with each video image (see Bulman, col 12, lines 29-40 and col 13, lines 33-37).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-3, 7-9, 11-16, 18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemmons (of record) in view of Bulman (of record), Wang (of record) and Lemmons '981 (of record).

Regarding claims 1, Lemmons discloses a method for generating a stream of video (scenes/frames of the video, see Lemmons, [0031], lines 1-2 and Figs. 6A and 6B) such that a preregistered picture (labels 610/620, see Lemmons, Figs. 6A and 6B) is superimposed on a predetermined area of a moving object in a plurality of video images (soda can 608/618, see Lemmons, Figs. 6A and 6B), the method comprising:

determining in each of the plurality of video images a location, an orientation and a size of said predetermined area of said moving object (see Lemmons, [0081]-[0084], line 5), and

using the selected information on the location and size of said predetermined area of said moving object to superimpose the preregistered picture on the plurality of video images to generate the stream of video (see Lemmons, [0084], lines 5-9 and '745, page 9, lines 14-29 and page 12, lines 1-3).

Lemmons does not specifically disclose receiving a first set of computer generated views of the preregistered picture in various orientations at a video receiver before the plurality of video images are received,

associating each computer generated view of the first set of computer generated views with an orientation index that identifies the physical orientation of the computer generated view of the preregistered picture,

storing, in a machine-readable medium, the first set of computer generated views and the associated orientation index,

receiving orientation and position data for the moving object captured by a sensor attached to the moving object,

receiving position data for a camera that captured the plurality of video images,

wherein orientation is determined using the orientation and position data for the moving object and the position data for the camera,

selecting, from the orientation indices associated with the stored computer generated views, the orientation index of the computer generated view having the same orientation as said predetermined area of said moving object, or

using the selected orientation index along with information on the location and size of said predetermined area of said moving object to superimpose the preregistered picture on the plurality of video images to generate the stream of video.

In an analogous art relating to a system for producing an electronic image, Bulman discloses receiving (at memory 102, see col 12, lines 21-22) a first set of computer generated (see Bulman, col 1, lines 27-30 and col 8, lines 9-28) views of the preregistered picture in various orientations at a video receiver (see Bulman, col 12, lines 21-25 and col 13, lines 29-33),

associating each computer generated view of the first set of computer generated views with an orientation index that identifies the physical orientation of the computer generated view (see Bulman, Fig. 11 and col 12, lines 21-25 and col 13, lines 29-33),

storing, in a machine-readable medium, the first set of computer generated views (see Bulman, col 12, lines 21-25 and col 13, lines 29-33) and the associated orientation index (see Bulman, col 13, lines 29-33),

selecting, from the orientation indices associated with the stored computer generated views, the orientation index of the computer generated view having the same orientation as a predetermined area of an object (see Bulman, col 13, lines 33-37 and Fig. 11.), and

using the selected orientation index along with information on the location and size of said predetermined area of said moving object to superimpose the preregistered picture on the plurality of video images to generate the stream of video (The orientation index of Bulman's system includes orientation and positioning information along with the different orientated views of the picture, see Bulman, col 13, lines 33-37. This then, reasonably corresponds to the data file 722 of Lemmons' system, which is transmitted with each image. Therefore, Lemmons in view of Bulman reasonably teaches the limitation of transmitting with each current image the selected orientation index along with information on the location and size of said predetermined area of said moving object (see Lemmons, [0084], lines 5-9 and '745, page 9, lines 14-29 and page 12, lines 1-3, and Bulman, col 13, lines 29-33).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Lemmons' system to include the limitations as taught by Bulman for the advantage of providing an improved system for allowing a combined image to be displayed with a more natural look.

Lemmons in view of Bulman does not specifically disclose receiving the views at the video receiver before the plurality of video images is received,

receiving orientation and position data for the moving object, the orientation and position data captured by a sensor attached to the moving object,

receiving position data for a camera that captured each current image, or

wherein orientation is determined using the orientation and position data for the moving object and the position data for the camera.

In an analogous art relating to a system for providing enhanced broadcasting, Wang discloses receiving orientation and position data from a moving object (see Wang, col 7, lines 26-59), the orientation and position data captured by a sensor attached to the moving object (see Wang, col 7, lines 55-59),

receiving position data for a camera that captured each current image (see Wang, col 7, lines 8-12 and lines 60-66), and

wherein orientation is determined using the orientation and position data for the moving object and the position data for the camera (see Wang, co 8, lines 12-16).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman to include the limitations as taught by Wang for the advantage of providing an improved system for allowing a combined image to be displayed with a more natural look, and further allowing the possibility to successfully integrate properly placed, scaled and computer generated synthetic content with video content.

Lemmons in view of Bulman and Wang does not specifically disclose receiving the views at the video receiver before the plurality of video images is received.

In an analogous art relating to a system for presenting an enhanced image, Lemmons '981 discloses transmitting enhancement information in advance of transmission of a stream of video images (see [0029]-[0030], lines 1-4). The system of Lemmons in view of Bulman teaches providing enhancements to video content (see Lemmons, [0003], and Bulman, col 6, lines 6-10) in a more normalized (see Bulman, col 1, lines 60-63), flexible and inexpensive manner (see Lemmons, [0006] and [0007]) in that the enhancement information does not have to be

embedded within the video stream (see Lemmons, [0010]). Lemmons '981 teaches enhancement data being transmitted and received before the video stream to be enhanced is transmitted and received (see Lemmons '981, [0029]-[0030], lines 1-4). Lemmons '981 teaches enhancement data including stock updates and news stories, as well as other information, as examples only. It is well known in the art that enhancement data may be of any type or form, as shown in Lemmons and Bulman.

Therefore, it would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman to include the limitations as taught by Lemmons '981 for the advantage of providing an improved system for delivering enhancements such that the enhanced video is presented in a more normalized, flexible and inexpensive manner, while conserving bandwidth.

Regarding claims 2, Lemmons in view of Bulman, Wang and Lemmons '981 discloses providing (see Lemmons, [0084], lines 5-9 and '745, page 9, lines 14-29 and page 12, lines 1-3) at least one second set of views of a second preregistered picture (the second set of views are the updates to the hot spots/labels, see Lemmons, [0010], lines 10-18, [0013], lines 6-14, [0040], lines 6-7 and Figs. 6A and 6B), and therefore would correspond to updating the views of the preregistered picture of Bulman, see Bulman, col 12, lines 21-25 and col 13, lines 29-33), corresponding to the first set of computer generated views (the second set of views are the updates to the hot spots/labels, see Lemmons, [0010], lines 10-18, [0013], lines 6-14, [0040], lines 6-7 and Figs. 6A and 6B, and therefore would correspond to updating the views of the preregistered picture of Bulman, see Bulman, col 12, lines 21-25 and col 13, lines 29-33), and for each transmitted current image:

extracting the orientation index and the size and location information (see Bulman, col 13, lines 33-37),

selecting, from the second set of views (the second set of views are the updates to the hot spots/labels, see Lemmons, [0010], lines 10-18, [0013], lines 6-14, [0040], lines 6-7 and Figs. 6A and 6B, and therefore would correspond to updating the views of the preregistered picture of Bulman, see Bulman, col 12, lines 21-25 and col 13, lines 29-33), an computer generated picture in accordance with the orientation index (see Bulman, col 13, lines 33-37 and Fig. 11),

computing a scaled picture on the basis of the size information (see Lemmons, [0082]-[0084], line 5, Figs. 6A-6B and '745, Fig. 7 and page 5, lines 1-9), and

superimposing the scaled picture in the current image at a location corresponding to the location information (see Lemmons, Figs. 6A-6B and [0082]-[0083], line 5, and '745, Fig. 7 and page 5, lines 1-9).

Regarding claim 3, Lemmons in view of Bulman and Wang discloses, at the beginning of a TV program to be transmitted, the second set of views (the second set of views are the updates to the hot spots/labels, see Lemmons, [0010], lines 10-18, [0013], lines 6-14 and [0040], lines 6-7, and therefore would correspond to updating the views of the preregistered picture of Bulman, see Bulman, col 12, lines 21-25 and col 13, lines 29-33) is downloaded in the video receivers (As the labels/label information may be downloaded, and it is very well known in the art and common that a download can occur at any time, Lemmons fairly suggests that at the beginning of a TV program to be transmitted, the second set of views is downloaded in video receivers, see Lemmons, [0084], lines 5-9 and '745, page 9, lines 14-29 and page 12, lines 1-3).

Regarding claim 7, Lemmons in view of Bulman, Wang and Lemmons '981 discloses the content of the second set of views depends upon the geographic broadcasting zone (see Lemmons, [0013], lines 6-14 and [0040], lines 1-13).

Regarding claim 8, Lemmons in view of Bulman, Wang and Lemmons '981 discloses the location and orientation information in a current image are calculated for a reference point of the object (see Lemmons, [0083]-[0084], line 5).

Regarding claim 9, Lemmons in view of Bulman, Wang and Lemmons '981 discloses, in a current image, the location, orientation and size of an object are provided in a differential way with respect to a former image (see '745, page 13, line 30 – page 14, line 11).

Regarding claim 11, Lemmons in view of Bulman, Wang and Lemmons '981 discloses using shape recognition tools to detect the presence of the moving object on the basis on a stored geometrical representation (see Lemmons, [0064], lines 20-32).

Regarding claim 12, Lemmons discloses a system for generating a stream of video to be broadcasted (scenes/frames of the video, see Lemmons, [0031], lines 1-2 and Figs. 6A and 6B) such as, at the reception, a preregistered picture (labels 610/620, see Lemmons, Figs. 6A and 6B) can be superimposed to a predetermined area of a moving object (soda can 608/618, see Lemmons, Figs. 6A and 6B), the system comprising:

an estimator of the location, orientation and size of said predetermined area of said moving object in each video image (see Lemmons, [0081]-[0084], line 5), and

a generator of a video stream in which each video image containing said area is attached to the selected information along with the location and size of the information area (see Lemmons, [0084], lines 5-9 and '745, page 9, lines 14-29 and page 12, lines 1-3).

Lemmons does not specifically disclose a memory storing a set of computer generated views of said picture for various orientations and associating with each computer generated view an orientation index that identifies the physical orientation of the computer generated view of the preregistered picture associated with the corresponding orientation index,

wherein said set of computer generated views is received before the video images,

a selector for selecting, among said set of computer generated views, a computer generated picture having the same orientation as said predetermined area in the video image as determined from orientation and position data captured by a sensor attached to the moving object and camera position data, and

a generator of a video stream in which each video image containing said area is attached to the selected orientation index along with the location and size of the information area.

In an analogous art, Bulman discloses a memory storing a set of computer generated views of said picture for various orientations (see Bulman, col 12, lines 21-25 and col 13, lines 29-33) and associating with each computer generated view an orientation index that identifies the physical orientation of the computer generated view of the preregistered picture associated with the corresponding orientation index (see Bulman, Fig. 11 and col 12, lines 21-25 and col 13, lines 29-33),

a selector for selecting, among said set of computer generated views, an computer generated picture having the same orientation as said predetermined area in the video image (see Bulman, col 13, lines 33-37 and Fig. 11.), and

a generator of a video stream in which each video image containing said area is attached to the selected orientation index along with the location and size of the information area (The

orientation index of Bulman's system includes orientation and positioning information along with the different orientated views of the picture, see Bulman, col 13, lines 33-37. This then, reasonably corresponds to the data file 722 of Lemmons' system, which is transmitted with each image. Therefore, Lemmons in view of Bulman reasonably teaches the limitation of transmitting with each current image the selected orientation index along with information on the location and size of said predetermined area of said moving object (see Lemmons, [0084], lines 5-9 and '745, page 9, lines 14-29 and page 12, lines 1-3, and Bulman, col 13, lines 29-33).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Lemmons' system to include the limitations as taught by Bulman for the advantage of providing an improved system for allowing a combined image to be displayed with a more natural look.

Lemmons in view of Bulman does not specifically disclose receiving the views before the video images,

orientation and position data captured by a sensor attached to the moving object,

camera position data,

wherein orientation is determined using the orientation and position data.

In an analogous art, Wang discloses orientation and position data captured by a sensor (see Wang, col 7, lines 26-59) attached to the moving object (see Wang, col 7, lines 55-59),

camera position data (see Wang, col 7, lines 8-12 and lines 60-66), and

wherein orientation is determined using the orientation and position data (see Wang, col 8, lines 12-16).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman to include the limitations as taught by Wang for the advantage of providing an improved system for allowing a combined image to be displayed with a more natural look, and further allowing the possibility to successfully integrate properly placed, scaled and computer generated synthetic content with video content.

Lemmons in view of Bulman and Wang does not specifically disclose receiving the views before the video images.

In an analogous art, Lemmons '981 discloses transmitting enhancement information in advance of transmission of a stream of video images (see [0029]-[0030], lines 1-4). The system of Lemmons in view of Bulman teaches providing enhancements to video content (see Lemmons, [0003], and Bulman, col 6, lines 6-10) in a more normalized (see Bulman, col 1, lines 60-63), flexible and inexpensive manner (see Lemmons, [0006] and [0007]) in that the enhancement information does not have to be embedded within the video stream (see Lemmons, [0010]). Lemmons '981 teaches enhancement data being transmitted and received before the video stream to be enhanced is transmitted and received (see Lemmons '981, [0029]-[0030], lines 1-4). Lemmons '981 teaches enhancement data including stock updates and news stories, as well as other information, as examples only. It is well known in the art that enhancement data may be of any type or form, as shown in Lemmons and Bulman.

Therefore, it would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman to include the limitations as taught by Lemmons '981 for the advantage of providing an improved system for

delivering enhancements such that the enhanced video is presented in a more normalized, flexible and inexpensive manner, while conserving bandwidth.

Regarding claim 13, Lemmons in view of Bulman, Wang and Lemmons '981 discloses a video receiver adapted to receive images (see Bulman, col 12, lines 21-25 and col 13, lines 29-33) comprising:

the memory (see Bulman, col 12, lines 21-25 and col 13, lines 29-33);

an extractor for from said memory an oriented picture on the basis of the orientation index attached to each video image of the video stream (see Bulman, Fig. 11 and col 12, lines 21-25 and col 13, lines 29-37); and

a calculator for providing a scaled picture on the basis of the size information attached to each video image in the video stream (see Lemmons, [0082]-[0084], line 5, Figs. 6A-6B and '745, Fig. 7 and page 5, lines 1-9), and for superimposing said scaled picture in the video image at the location corresponding to said location information (see Lemmons, Figs. 6A-6B and [0082]-[0083], line 5, and '745, Fig. 7 and page 5, lines 1-9).

Regarding claim 14, Lemmons in view of Bulman, Wang and Lemmons '981 discloses a second set of views contains picture frames of same orientation of the first set of views, with a picture content (the second set of views are the updates to the hot spots, see Lemmons, [0010], lines 10-18, [0013], lines 6-14 and [0040], lines 6-7 and Figs. 6A-6B).

Regarding claim 15, Lemmons in view of Bulman, Wang and Lemmons '981 discloses in which the first set of computer generated views contains only picture frames (because Lemmons teaches that an object may be defined with a hot spot of which may only include an outline of a

specific area, it is fairly suggested that a first set of views contains only picture frames, as there is no specific ad or label visible, see '745, page 5, lines 4-24).

Regarding claims 16 and 18, Lemmons in view of Bulman, Wang and Lemmons '981 discloses superimposing, with a video receiver, the computer generated view having the same orientation as said predetermined area in the current image in the video image (see Lemmons, Figs. 6A-6B and [0082]-[0083], line 5, and '745, Fig. 7 and page 5, lines 1-9 and Bulman, col 13, lines 33-37).

Regarding claim 20, Lemmons discloses a method for transmitting a stream of video (scenes/frames of the video, see Lemmons, [0031], lines 1-2 and Figs. 6A and 6B) such that a preregistered picture (labels 610/620, see Lemmons, Figs. 6A and 6B) can be superimposed to a predetermined area of a moving object depicted in the stream (soda can 608/618, see Lemmons, Figs. 6A and 6B), the method comprising:

for each video image of the stream of video images:

determining location, orientation and size of the predetermined area of the moving object in the video image (see Lemmons, [0083]-[0084], line 5);

transmitting the video image along with the determined location and the size of the predetermined area of the moving object in the video image (see Lemmons, [0084], lines 5-9 and '745, page 9, lines 14-29 and page 12, lines 1-3).

Lemmons does not specifically disclose receiving a first set of computer generated views of the preregistered picture in various orientations;

in advance of transmission of the stream of video images, transmitting each computer generated view of the first set of computer generated views in association with an orientation

index that identifies a physical orientation of the computer generated view of the preregistered picture;

determining orientation an position data captured by a sensor attached to the moving object and camera position data;

selecting, from the orientation indices associated with the first set of computer generated views,

an orientation index corresponding to an orientation of the predetermined area of the moving object in the video image, or

transmitting with each current image the selected orientation index.

In an analogous art, Bulman discloses receiving a first set of computer generated views of the preregistered picture in various orientations (see Bulman, col 12, lines 21-25 and col 13, lines 29-33);

selecting, from the orientation indices associated with the stored computer generated views, an orientation index of the computer generated view having the same orientation as a predetermined area of an object in a current image (see Bulman, col 13, lines 33-37 and Fig. 11.), and

transmitting with each current image the selected orientation index (The orientation index of Bulman's system includes orientation and positioning information along with the different orientated views of the picture, see Bulman, col 13, lines 33-37. This then, reasonably corresponds to the data file 722 of Lemmons' system, which is transmitted with each image. Therefore, Lemmons in view of Bulman reasonably teaches the limitation of transmitting with each current image the selected orientation index along with information on the location and size

of said predetermined area of said moving object (see Lemmons, [0084], lines 5-9 and '745, page 9, lines 14-29 and page 12, lines 1-3, and Bulman, col 13, lines 29-33).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Lemmons' system to include the limitations as taught by Bulman for the advantage of providing an improved system for allowing a combined image to be displayed with a more natural look.

Lemmons in view of Bulman does not specifically disclose determining orientation and position data captured by a sensor attached to the moving object and camera position data, or

transmitting the enhancement information in advance of transmission of the stream of video images.

In an analogous art, Wang discloses determining orientation and position data captured by a sensor (see Wang, col 7, lines 26-59) attached to the moving object (see Wang, col 7, lines 55-59) and camera position data (see Wang, col 7, lines 8-12 and lines 60-66), and

wherein orientation is determined using the orientation and position data (see Wang, col 8, lines 12-16).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman to include the limitations as taught by Wang for the advantage of providing an improved system for allowing a combined image to be displayed with a more natural look, and further allowing the possibility to successfully integrate properly placed, scaled and computer generated synthetic content with video content.

Lemmons in view of Bulman and Wang does not specifically disclose transmitting the enhancement information in advance of transmission of the stream of video images.

In an analogous art relating to a system for presenting an enhanced image, Lemmons '981 discloses transmitting enhancement information in advance of transmission of a stream of video images (see [0029]-[0030], lines 1-4). The system of Lemmons in view of Bulman teaches providing enhancements to video content (see Lemmons, [0003], and Bulman, col 6, lines 6-10) in a more normalized (see Bulman, col 1, lines 60-63), flexible and inexpensive manner (see Lemmons, [0006] and [0007]) in that the enhancement information does not have to be embedded within the video stream (see Lemmons, [0010]). Lemmons '981 teaches enhancement data being transmitted and received before the video stream to be enhanced is transmitted and received (see Lemmons '981, [0029]-[0030], lines 1-4). Lemmons '981 teaches enhancement data including stock updates and news stories, as well as other information, as examples only. It is well known in the art that enhancement data may be of any type or form, as shown in Lemmons and Bulman.

Therefore, it would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman to include the limitations as taught by Lemmons '981 for the advantage of providing an improved system for delivering enhancements such that the enhanced video is presented in a more normalized, flexible and inexpensive manner, while conserving bandwidth.

Regarding claim 21, Lemmons in view of Bulman and Lemmons '981 does not specifically disclose transmitting a polygon representation of an obstruction with the video image and the selected orientation index.

In an analogous art, Wang discloses transmitting a polygon representation of an obstruction with the video image and the selected orientation index (Wang teaches creating a view of a synthetic camera based on the field of view of an actual camera [see Wang, col 7, lines 37-39]. Any object in a camera's field of view, then, including an obstruction, will be represented in the transmitted signal [see Wang, col 7, lines 37-54]. Furthermore, objects presented in the synthetic view may be three dimensional graphic representations of an object [see Wang, col 8, lines 43-52], which, then, must include polygons since virtual and/or 3D graphics may be built based on various polygons. Therefore, the limitation as claimed is met).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman and Lemmons '981 to include the limitations as taught by Wang for the advantage of providing an improved system for allowing a combined image to be displayed with a more natural look, and further allowing the possibility to successfully integrate properly placed, scaled and computer generated synthetic content with video content.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lemmons (of record) in view of Bulman (of record), Wang (of record) and Lemmons '981 (of record), as applied to claim 1 above, and further in view of Wixson (of record).

Regarding claim 10, Lemmons in view of Bulman, Wang and Lemmons '981 does not specifically disclose static points of an image are localizable to detect when a new object comes into a next image.

In an analogous art relating to a system for detecting and tracking objects, Wixson discloses static points of an image are localizable to detect when a new object comes into a next image (see Wixson, col 1, lines 26-32).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman, Wang and Lemmons '981 to include the limitations as taught by Wixson, for the advantage of providing an advertisement to the newly detected object.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lemmons (of record) in view of Bulman (of record), Wang (of record) and Lemmons '981 (of record), as applied to claim 1 above, and further in view of Martinolich (of record).

Regarding claim 17, Lemmons in view of Bulman, Wang and Lemmons '981 does not specifically disclose superimposing, with a video production mixer, the computer generated view having the same orientation as the area in the current image in the current image.

In an analogous art relating to a system for the production of interactive video, Martinolich discloses superimposing, with a video production mixer, the computer generated view having the same orientation as the area in the current image in the current image (see Martinolich , [0020], lines 1-8, [0022], lines 1-19 and Fig. 1).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Lemmons in view of Bulman, Wang and Lemmons '981 to

include the limitations as disclosed by Martinolich, for the advantage of using a commonly know and widely used device that allows secondary information to be added to a video signal.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHENEA P. SMITH whose telephone number is (571)272-9524. The examiner can normally be reached on 8:00 am - 4:00 pm, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/CHENEA P SMITH/
Examiner, Art Unit 2421